



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,660	02/06/2002	Shihoko Sekiguchi	500.41164X00	5726
24956	7590	12/30/2005	EXAMINER	
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314			ABEL JALIL, NEVEEN	
			ART UNIT	PAPER NUMBER
			2165	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/066,660	Applicant(s) SEKIGUCHI ET AL.	
	Examiner Neveen Abel-Jalil	Art Unit 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 9, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9-September-2005 has been entered.
2. The amendment filed on 9-September-2005 has been received and entered. Claims 10-16 have been newly added. Therefore, claims 1-16 are now pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 12, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of "the gap" in claim 12, line 2, is vague and misleading. It is not understood by the Examiner what is meant by the gap or how it falls into the previous claim language. It is not clear how does the gap relate to the invention. It does not narrow the scope of the previous claim instead it introduces confusion.

The language of claim 14 is vague and confusing. It is not clear to the Examiner how is it possible to implement since it does not narrow the scope of the prior claim. If the allocated storage does not satisfy the requirement range, it would have not been selected for the allocation in the first place. Then, how is it now, still being considered as allocated storage that has a logical and geographical distance that does not fall into the requirement range? And yet it is still considered to be one of the farther ones?

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Garcia-Luna-Aceves (U.S. Pub. No. 2001/0056416 A1).

As to claims 1, and 10, Garcia-Luna-Aceves discloses a storage resource operation managing method in a storage network arranged by a node for transmitting an access -request via a network to a storage and by a storage group constituted by at least one storage resource which receives said access request so as to execute a content of the access request, said storage resource operation managing method, comprising the steps of:

acquiring **at least one** of a logical distance and a geographical distance from at least one of, said node and said storage resources contained in said storage group, and said storage resources contained in said storage group (See page 7, paragraph 61, also see page 5, paragraph 0043);

acquiring from said node, a requirement range with respect to **at least one** of said logical, distance and said geographical distance (See page 5, paragraph 0043, wherein “requirement range” reads on “specified performance metrics” i.e. latency based on distance or number of hops, also see page 9, paragraphs 0081-0083); and

selecting at least one storage resource for executing access request issued from said node from said storage group, while **at least one** of said requirement range with respect to said logical distance and said requirement range with respect to said geographical distance is set as a selecting condition (See page 11, paragraphs 0112-0113).

As to claim 2, Garcia-Luna-Aceves discloses wherein as said storage resource selecting condition, at least one storage resource is selected which is located within said requirement range of at least one of said logical distance and said geographical distance (See page 9, paragraph 0080, wherein “within” reads on “best distance”).

As to claim 3, Garcia-Luna-Aceves discloses within at least one storage resource located in said requirement range, at least such one storage resource is selected whose at least one of said logical distance and said geographical distance is closer than those of other storage resources (See page 10, paragraph 0088, wherein “closer” reads on “minimum distance”).

As to claim 4, Garcia-Luna-Aceves discloses within at least one storage resource located in said requirement range, at least such one storage resource is selected, the geographic distance of which is far from the geographical distance of another storage resource (Since the decision of claim 1 under optionally is to either selection at least one of “geographical or logical” distance, once “logical” is selected, this claim does not hold any patentable weight, see pages 9-10, paragraph 0086).

As to claims 5, and 6, Garcia-Luna-Aceves discloses a storage resource operation managing method in a storage network arranged by a node for transmitting an access request via a network to a storage and by a storage group constituted by at least one storage resource which receives said access request so as to execute a content of the access request, said storage resource operation managing method comprising the steps of:

acquiring **at least one** of a logical distance and a geographical distance from at least one of said node and said storage resources contained in said storage group, and said storage resources contained in said storage group (See page 7, paragraph 61, also see page 5, paragraph 0043);

acquiring from said node a requirement range with respect to **at least one** of said logical distance and said geographical distance (See page 5, paragraph 0043, wherein “requirement range” reads on “specified performance metrics” i.e. latency based on distance or number of hops, also see page 9, paragraphs 0081-0083); and

selecting at least one storage resource for executing access request issued from said node from said storage group, while **at least one** of said requirement range with respect to said logical distance and said requirement range with respect to said geographical distance is set as a selecting condition (See page 11, paragraphs 0112-0113),

wherein in such a case that the storage resource located within said requirement range is not present within said storage group (See pages 9-10, paragraph 0086, wherein “not present” reads on “redirect”), such a storage resource is selected whose **at least one** of said logical distance and said geographical distance is closer than those of another storage resource from said storage group (See page 9, paragraphs 0081-0083).

As to claim 7, Garcia-Luna-Aceves discloses with respect to at least a first storage resource contained in said storage group,

a requirement range with respect to a geographical distance from said first storage resource is acquired (See page 7, paragraph 61, also see page 5, paragraph 0043);

a second storage resource is selected from said storage group located within the requirement range with respect to said geographical distance from said first storage resource, **or** a second storage within the requirement range with respect to said geographical distance from said first storage resource (See page 9, paragraph 0080, wherein “within” reads on “best distance”, also see page 5, paragraph 0043, wherein “requirement range” reads on “specified performance metrics” i.e. latency based on distance or number of hops, also see page 9, paragraphs 0081-0083);

copied data as to a least a data portion of such data stored in said first storage resource is stored into said second storage resource (See page 7, paragraph 0063, wherein “copied” reads on “replicated”); and

in the case that an occurrence of a trouble of said first storage resource is detected, the access request issued from said node, which is transmitted to said first storage resource, is executed with respect to said copied data of the data stored in said second storage resource (See page 9, paragraph 0079, wherein “occurrence of trouble” reads on “redirection”, also see pages 4-5, paragraph 0037, wherein “copied data” reads on “replica”).

As to claims 8, and 16, Garcia-Luna-Aceves discloses further comprising the steps of:

in such a case that a geographical location of said node is changed from a first setting position to a second setting position, judging whether or not a logical distance defined from said node set at the second setting position up to such a storage resource which executes an access request transmitted by said node is located within said requirement range (Since the decision of claim 1 under optionally is to either selection at least one of “geographical or logical” distance, once “logical” is selected, this claim does not hold any patentable weight and vice versa, see page 3, paragraph 0028, wherein “second position” reads on “next-hop”); and

moving data in said storage resource into another storage resource, when the logical distance from said second setting position is located is beyond said requirement range (Since the decision of claim 1 under optionally is to either selection at least one of “geographical or logical” distance, once “logical” is selected, this claim does not hold any patentable weight and vice versa, see page 12, paragraph 0127).

As to claim 9, Garcia-Luna-Aceves discloses in a storage network which is arranged by a node for transmitting an access request via a network to a storage; a storage group constituted by at least one storage resource which receives said access request so as to execute a content of the access request; and a management server, said management server comprising:

means for acquiring **at least one** of a logical distance and a geographical distance from at least one of, said node and said storage resource contained in said storage group, and said storage resources contained in said storage group (See page 7, paragraph 61, also see page 5, paragraph 0043);

means for acquiring from said node, a requirement range with respect to **at least one** of said logical distance and said geographical distance (See page 5, paragraph 0043, wherein “requirement range” reads on “specified performance metrics” i.e. latency based on distance or number of hops, also see page 9, paragraphs 0081-0083); and

means for selecting at least one storage resource for executing the access request issued from said node from said storage group, while **at least one** of said requirement range with respect to said logical distance and said requirement range with respect to said geographical distance is set as a selecting condition (See page 11, paragraphs 0112-0113).

As to claim 11, Garcia-Luna-Aceves discloses wherein the step of allocating comprises the step of:

if the storage resource located within said requirement range is not present, allocating at least one storage resources unsatisfied with said requirement range based that acquired storage

resource information (See pages 9-10, paragraph 0086, wherein “not present” reads on “redirect”).

As to claim 12, Garcia-Luna-Aceves discloses wherein said allocated storage resource to said computer is that the gap between said storage device information of said allocated storage device and said requirement range is smaller than gaps between said other storage device information of storage devices that do not satisfy said requirement range (See page 9, paragraph 0079, wherein “occurrence of trouble” reads on “redirection”, also see page 10, paragraph 0087).

As to claim 13, Garcia-Luna-Aceves discloses wherein **at least one** of said logical distance and said geographical distance of said allocated storage resource is closer than those of said other storage device that does not satisfy said requirement range (See page 10, paragraph 0087, results of the comparison step).

As to claim 14, Garcia-Luna-Aceves discloses wherein **at least one** of said logical distance and said geographical distance of said allocated storage resource is farther than those of said other storage device that do not satisfy said requirement range (See pages 9-10, paragraph 0086, wherein “do not” reads on “redirection”).

As to claim 15, Garcia-Luna-Aceves discloses wherein the step of allocating comprises the step of:

if the storage resource located within said requirement range is not present, adding at least one of new storage resources that satisfy said requirement range and allocating at least one of said new storages (See page 12, paragraph 0128, wherein “adding” reads on “new mapping”).

Response to Arguments

7. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lamberton et al. (U.S. Patent No. 6,792,463 B1) teaches edge proxies by geographical distance.

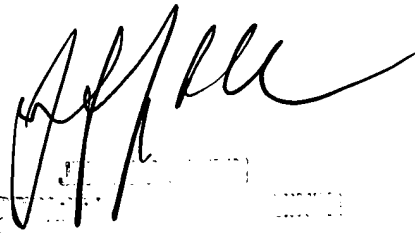
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074.

The examiner can normally be reached on 8:30AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Neveen Abel-Jalil
December 22, 2005



Neveen Abel-Jalil
December 22, 2005